

REMARKS

Claims 1-48 are pending in this application with claims 1, 11, 12, 15, 25 and 26 being amended by this response.

Objections to the Claims

Claims 1 and 15 are objected to as the recitation of the magnetic permeable elements is not clear. Claims 1 and 15 have been amended to clarify the recitation of the magnetically permeable elements and the electrically isolated data transducers in the portable patient monitor device and the docking station. In view of the amendments to claims 1 and 15 it is respectfully submitted that this objection is satisfied and should be withdrawn.

Rejection of Claims 1-28 and 47-48 under 35 USC § 103(a)

Claims 1-4, 8-10, 15-18, 22-24 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onoda (U.S. Patent No. 5,284,151) in view of Hough (U.S. Patent No. 5,229,652) and Carter et al. (US Patent No. 6,659,947).

Claim 1 of the present invention recites a portable patient monitor device using an electrically isolated, combined power and signal coupler system. The device includes a power coupler and an electrically isolated data transducer. The electrically isolated data transducer is at least partially shielded from external signal interference. The power coupler has a magnetically permeable element including a central pole and a peripheral pole. A winding forms an opening through which the central pole protrudes. The portable patient monitor device is suitable for docking with a docking station by (a) forming a magnetic circuit including a magnetically permeable element in the portable patient monitor device and a corresponding magnetically permeable element in the docking station, and (b) coupling a data transducer in the portable patient monitor device to a corresponding transducer in the docking station to support connection of the portable patient monitor device to a network and to bi-directionally exchange data. The

Application No. 09/992,696 Attorney Docket No. 2000P09065US01
claims have been amended to clarify that the “electrically isolated data transducer [is] protected from external signal interference”. Support for this amendment is provided throughout the specification and specifically on page 14, lines 23-30; and page 20, lines 7-10 and 14-18. Independent claim 15 is directed to a docking station and includes similar limitations to those discussed above.

Onoda neither discloses nor suggests “an electrically isolated data transducer at least partially shielded from external signal interference” as in the present claimed invention. Onoda also neither discloses nor suggests, as admitted by the Examiner, “a power coupler, comprising: a magnetically permeable element including a central pole and a peripheral pole; and a winding, forming an opening through which the central pole protrudes” as in the present claimed invention. Onoda is concerned with maintaining the safety of a human body connected to the electrocardiograph when the electrocardiograph recorder is connected to the printer (see column 2, lines 36-40). Onoda is also concerned with preventing power noise from being mixed into the data signal (see column 3, lines 1-24). Onoda neither discloses nor suggests that the data transducer is “at least partially shielded from external signal interference” as in the present claimed invention. In fact, Onoda is not intended for use in the environment of the present claimed invention where external signals such as those produced in operating rooms by devices such as electro-cautery machines which use RF energy to cut tissue and coagulate blood during surgery (see Specification page 4, lines 24-30). Oneida, as is discussed throughout the patent, is for connecting an electrocardiograph recorder to a private printer. This system is not intended for use in environments in which RF transmissions from other devices may cause interference with the data transmission of the monitoring device as is the present claimed invention. Thus, Onoda does not consider protecting the data transducer from external signal interference as in the present claimed invention.

Hough is cited to show a power coupler comprising a magnetically permeable element including a first pole and a second pole; and a winding forming an opening through which the first pole protrudes. However, similarly to Onoda, Hough neither discloses nor suggests “an electrically isolated data transducer at least partially shielded

from external signal interference” as in the present claimed invention. Hough discloses a non-contact data and power connector for computer modules. Additionally, the power windings and data windings are not isolated from one another. In Hough, “the transformer core parts and the associated power and data windings form an integrated power and data magnetic transformer structure that efficiently couples power and data using a common transformer core structure formed by the module and host core parts” (see column 2, lines 39-45). In fact, in Hough, “the power and data windings on the module core part and the host core part are so wound in relation to one another and to the poles that power flux in the transformer core parts is mutually cancelled in the data windings and data flux is mutually cancelled in the power windings” (see column 2, lines 34-39). Thus, not only does Hough teach away from “an electrically isolated data transducer at least partially shielded from external signal interference” as in the present claimed invention but Hough also teaches away from Onoda which is concerned with preventing power noise from being mixed into the data signal (see column 3, lines 1-24). It is thus respectfully submitted that Hough and Onoda cannot be combined as Onoda teaches isolation of the power and data lines while in Hough, the power and data lines cannot be isolated from one another as taught by Onoda as cancellation of data and power flux is needed. It is thus respectfully submitted that combination of Hough with Onoda is not proper as use of the power and data windings of Hough expressly contradicts the teaching of Onoda.

Carter et al., similarly to Onoda and Hough, also neither disclose nor suggest “an electrically isolated data transducer protected from external signal interference” as in the present claimed invention. Carter et al. disclose a wireless LAN architecture including multiple access points distributed throughout a medical facility for providing wireless access points to a hardwired network. Carter et al. is silent with respect to “an electrically isolated data transducer protected from external signal interference” as in the present claimed invention.

Furthermore, as the patents to Onoda, Hough and Carter et al. are neither concerned with nor suggest a solution for shielding a data transducer from external signal interference, it is respectfully submitted that no motivation exists for combining

these references to produce the present claimed invention.

In view of the above remarks and amendments to the claims, it is respectfully submitted that Onoda, Hough and Carter et al. when taken alone or in any combination neither disclose nor suggest “[A] portable patient monitor device ...comprising...an electrically isolated data transducer protected from external signal interference” as in the present claimed invention. Thus, it is respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claims 12-14 and 26-28 under 35 USC § 103(a)

Claims 12-14 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onoda in view of Hough and Carter et al. as applied to claims 1 and 15 above, and further in view of Applicants Admitted Prior Art (AAPA).

The Examiner cites the prior art cited by Applicant to show a portable monitor device including a radio-frequency data transducer including an antenna. However, AAPA neither discloses nor suggests “an electrically isolated data transducer protected from external signal interference” as in the present claimed invention as discussed in the passage of the present specification following the passage cited by the Examiner. As discussed above, such is also neither disclosed nor suggested by any of Onoda, Hough and Carter et al. when taken alone or in any combination. Additionally, the AAPA neither discloses nor suggests “a radio-frequency (RF) data transducer providing at least partial signal immunity from external signal interference” as claimed in claim 12 or an antenna which “is shielded” as claimed in claim 14. It is thus respectfully submitted that the present claimed invention is not obvious in view of Onoda, Hough and Carter et al. and AAPA. It is thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claims 5-7, 19-21 and 48 under 35 USC § 103(a)

Claims 5-7, 19-21 and 48 are rejected under 35 U.S.C.103(a) as being unpatentable over Onoda in view of Hough and Carter as applied to claims 1, 15 and 7 above, and further in view of Riffe et al. (US Patent No. 4,030,058).

Riffe et al. discloses an inductive coupler. The inductive coupler including a magnetic permeable element having a thin covering of a non-magnetic, non-conductive material. The inductive coupler is for use in corrosive environments and the thin covering functions as an air gap between inductively coupled core sections, the air gap having a width able to minimize leakage reactance. Riffe et al., similarly to Onoda, Hough and Carter et al., neither disclose nor suggest “an electrically isolated data transducer protected from external signal interference” as in the present claimed invention. It is thus respectfully submitted that the present claimed invention is not obvious in view of Onoda, Hough, Carter et al. and Riffe et al. when taken alone or in any combination. It is thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claims 11 and 25 under 35 USC § 103(a)

Claims 11 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onoda in view of Hough and Carter as applied to claims 1 and 15 above, and further in view of Bui et al. (US Patent No. 6,398,727).

Bui et al. is cited to disclose an IR data transducer. However, Bui et al., similarly to Onoda, Hough and Carter et al., neither disclose nor suggest “an electrically isolated data transducer protected from external signal interference” as in the present claimed invention. It is thus respectfully submitted that, in view of the above remarks and amendments to the claims, the present claimed invention is not obvious in view of Onoda, Hough, Carter et al. and Bui et al. It is thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

Application No. 09/992,696

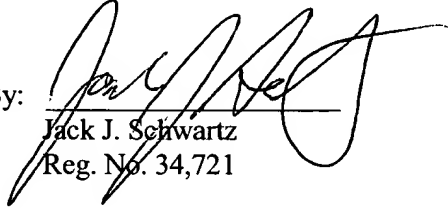
Attorney Docket No. 2000P09065US01

Having fully addressed the Examiner's rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 50-2828.

Respectfully submitted,
Clifford Mark Kelly et al.

By:


Jack J. Schwartz
Reg. No. 34,721

Jack Schwartz & Associates
1350 Broadway
Suite 1510
New York, New York 10018
Tel. No. (212) 971-0416
Fax No. (212) 971-0417
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Application No. 09/992,696

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CERTIFICATE OF MAILING

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Tanesha Canidate

Tanesha Canidate
(212) 971-0416